In the claims:

Claims 1-27 Canceled.

28. (currently amended) A method of screening a candidate for the preventive or therapeutic agent for breast cancer in which expression of histone methyltransferase is increased, which comprises
(a) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine wherein the methyl group is radio-labeled, and
histone protein or a polypeptide having the N-terminal sequence of histone H3,
(b) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine wherein the methyl group is radio-labeled, and
histone protein or a polypeptide having the N-terminal sequence of histone H3,
and
a test compound
wherein step (a) and step (b) are conducted separately,
(c) measuring the radioactivities of histone H3 or polypeptide having the N-terminal sequence of histone H3 by transfer of the methyl group in steps (a) and (b) and
(d) comparing the level of radioactivities measured in step (c).

29. (currently amended) A method of screening an apoptosis inducer for a cancer cell line, which comprises
(a) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine wherein the methyl group is radio-labeled, and
histone protein or a polypeptide having the N-terminal sequence of histone H3,
(b) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,

S-adenosyl-L-methionine wherein the methyl group is radio-labeled, and

histone protein or a polypeptide having the N-terminal sequence of histone H3, and

a test compound

wherein step (a) and step (b) are conducted separately,

(c) measuring the radioactivities of histone H3 or polypeptide having the N-terminal sequence of histone H3 by transfer of the methyl group in steps (a) and (b) and

(d) comparing the level of radioactivities measured in step (c).

30. (currently amended) A method of screening a candidate for the preventive or therapeutic agent for breast cancer in which expression of histone methyltransferase is increased, which comprises

(a) contacting

a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,

S-adenosyl-L-methionine, and

histone protein or a polypeptide having the N-terminal sequence of histone H3,

(b) contacting

a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,

S-adenosyl-L-methionine, and

histone protein or a polypeptide having the N-terminal sequence of histone H3, and

a test compound

wherein step (a) and step (b) are conducted separately,

(c) measuring the methylated lysine residues in steps (a) and (b) and

(d) comparing the level of methylated lysine residues measured in step (c).

31. (currently amended) A method of screening a candidate for the preventive or therapeutic agent for cancer in which expression of histone methyltransferase is increased, which comprises

(a) contacting

a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine, and
histone protein or a polypeptide having the N-terminal sequence of histone H3,
(b) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine, and
histone protein or a polypeptide having the N-terminal sequence of histone H3,
and
a test compound
wherein step (a) and step (b) are conducted separately,
(c) measuring the molecular weight of the purified reaction products, by mass spectrometry, obtained in steps (a) and (b) and
(d) comparing the results measured in step (c) using, as an indicator, changes in molecular weight accompanied by methylation.

32. (previously presented) The method of Claim 31, wherein the cancer is colorectal cancer, breast cancer, lung cancer, prostate cancer, esophageal cancer, gastric cancer, liver cancer, biliary tract cancer, spleen cancer, renal cancer, bladder cancer, uterus cancer, ovarian cancer, testicular cancer, thyroid cancer, pancreatic cancer, brain tumor or blood tumor.

33. (currently amended) A method of screening an apoptosis inducer, which comprises
(a) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine;
histone protein or a polypeptide having the N-terminal sequence of histone H3,
(b) contacting
a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,
S-adenosyl-L-methionine;

histone protein or a polypeptide having the N-terminal sequence of histone H3, and

a test compound

wherein step (a) and step (b) are conducted separately,

(c) measuring the methylated lysine residues in steps (a) and (b) and

(d) comparing the level of methylated lysine residues measured in step (c).

34. (currently amended) A method of screening an apoptosis inducer, which comprises

(a) contacting

a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,

S-adenosyl-L-methionine, and

histone protein or a polypeptide having the N-terminal sequence of histone H3,

(b) contacting

a protein containing the amino acid sequence of SEQ ID NO: 1 or a salt thereof,

S-adenosyl-L-methionine, and

histone protein or a polypeptide having the N-terminal sequence of histone H3, and

a test compound

wherein step (a) and step (b) are conducted separately,

(c) measuring the molecular weight of the purified reaction products, by mass spectrometry, obtained in steps (a) and (b), and

(d) comparing the results measured in step (c) using, as an indicator, changes in molecular weight accompanied by methylation.